APPENDIX C - PROTECTED SPECIES LISTS

IPaC

U.S. Fish & Wildlife Service

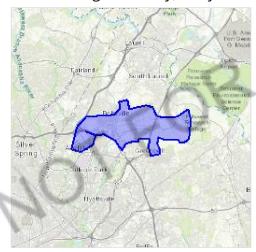
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location





Local office

Chesapeake Bay Ecological Services Field Office

(410) 573-4599

(410) 266-9127

177 Admiral Cochrane Drive Annapolis, MD 21401-7307

http://www.fws.gov/chesapeakebay/

http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

- 1. Draw the project location and click CONTINUE.
- 2. Click DEFINE PROJECT.
- 3. Log in (if directed to do so).
- 4. Provide a name and description for your project.
- 5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the <u>Ecological Services Program</u> of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact <u>NOAA Fisheries</u> for <u>species under their jurisdiction</u>.

- 1. Species listed under the <u>Endangered Species Act</u> are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the <u>listing status page</u> for more information.
- 2. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME STATUS

IPaC: Explore Location

10/23/2020

Northern Long-eared Bat Myotis septentrionalis

This species only needs to be considered if the following condition applies:

• Projects with a federal nexus that have tree clearing = to or > 15 acres: 1. REQUEST A SPECIES LIST 2. NEXT STEP: EVALUATE DETERMINATION KEYS 3. SELECT EVALUATE under the Northern Long-Eared Bat (NLEB) Consultation and 4(d) Rule Consistency key

No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045

Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

- 1. The <u>Migratory Birds Treaty Act</u> of 1918.
- 2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/ birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/ conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the <u>USFWS Birds of</u> Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your

IPaC: Explore Location

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location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found <u>below</u>.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A
BREEDING SEASON IS INDICATED
FOR A BIRD ON YOUR LIST, THE
BIRD MAY BREED IN YOUR
PROJECT AREA SOMETIME WITHIN
THE TIMEFRAME SPECIFIED,
WHICH IS A VERY LIBERAL
ESTIMATE OF THE DATES INSIDE
WHICH THE BIRD BREEDS ACROSS
ITS ENTIRE RANGE. "BREEDS
ELSEWHERE" INDICATES THAT THE
BIRD DOES NOT LIKELY BREED IN
YOUR PROJECT AREA.)

Bald Eagle Haliaeetus leucocephalus

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

https://ecos.fws.gov/ecp/species/1626

Breeds Oct 15 to Aug 31

Black-billed Cuckoo Coccyzus erythropthalmus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

https://ecos.fws.gov/ecp/species/9399

Breeds May 15 to Oct 10

Bobolink Dolichonyx oryzivorus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 20 to Jul 31

Canada Warbler Cardellina canadensis

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 20 to Aug 10

Cerulean Warbler Dendroica cerulea

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

https://ecos.fws.gov/ecp/species/2974

Breeds Apr 29 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds elsewhere

Eastern Whip-poor-will Antrostomus vociferus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 1 to Aug 20

Evening Grosbeak Coccothraustes vespertinus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Golden-winged Warbler Vermivora chrysoptera

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 1 to Jul 20

https://ecos.fws.gov/ecp/species/8745

Kentucky Warbler Oporornis formosus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Apr 20 to Aug 20

King Rail Rallus elegans

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936

Breeds May 1 to Sep 5

Least Tern Sterna antillarum

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds Apr 20 to Sep 10

Lesser Yellowlegs Tringa flavipes

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

https://ecos.fws.gov/ecp/species/9679

Breeds elsewhere

Nelson's Sparrow Ammodramus nelsoni

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 15 to Sep 5

Prairie Warbler Dendroica discolor

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 1 to Jul 31

Prothonotary Warbler Protonotaria citrea

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Apr 1 to Jul 31

Red-headed Woodpecker Melanerpes erythrocephalus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Sep 10

Rusty Blackbird Euphagus carolinus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Semipalmated Sandpiper Calidris pusilla

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Short-billed Dowitcher Limnodromus griseus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480

Breeds elsewhere

Willet Tringa semipalmata

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Apr 20 to Aug 5

Wood Thrush Hylocichla mustelina

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

- 1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
- 2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence

across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (1)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

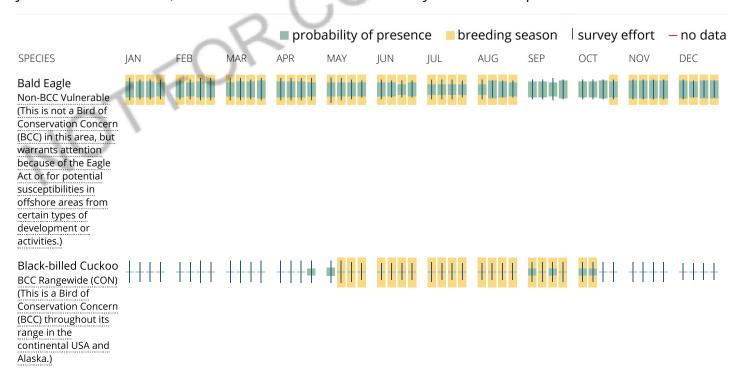
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

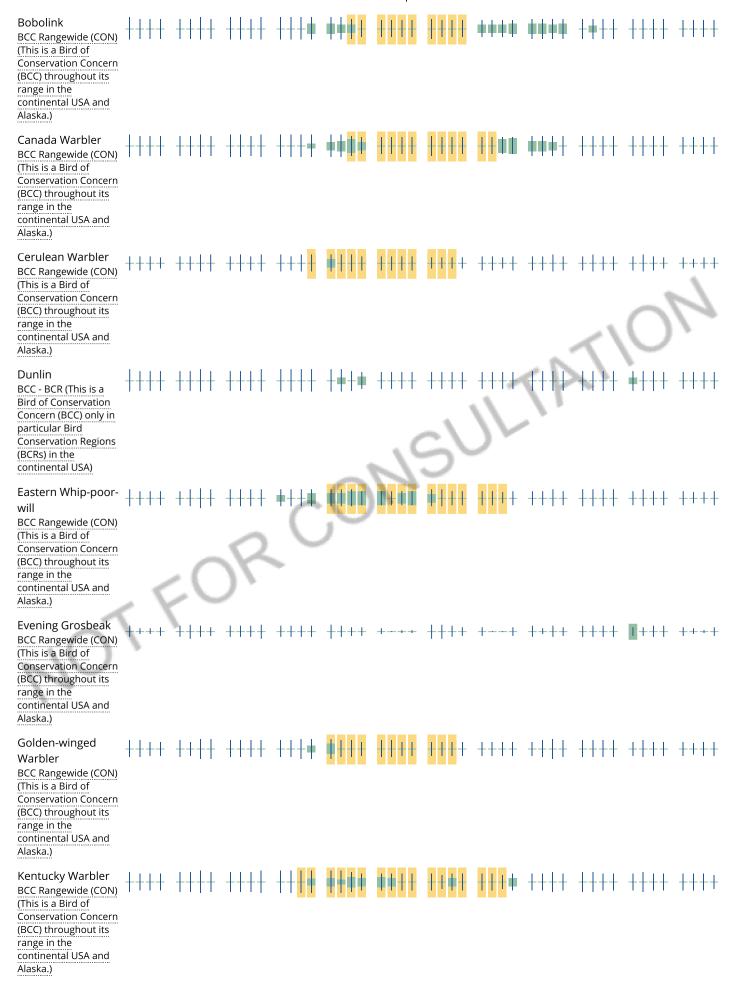
No Data (-)

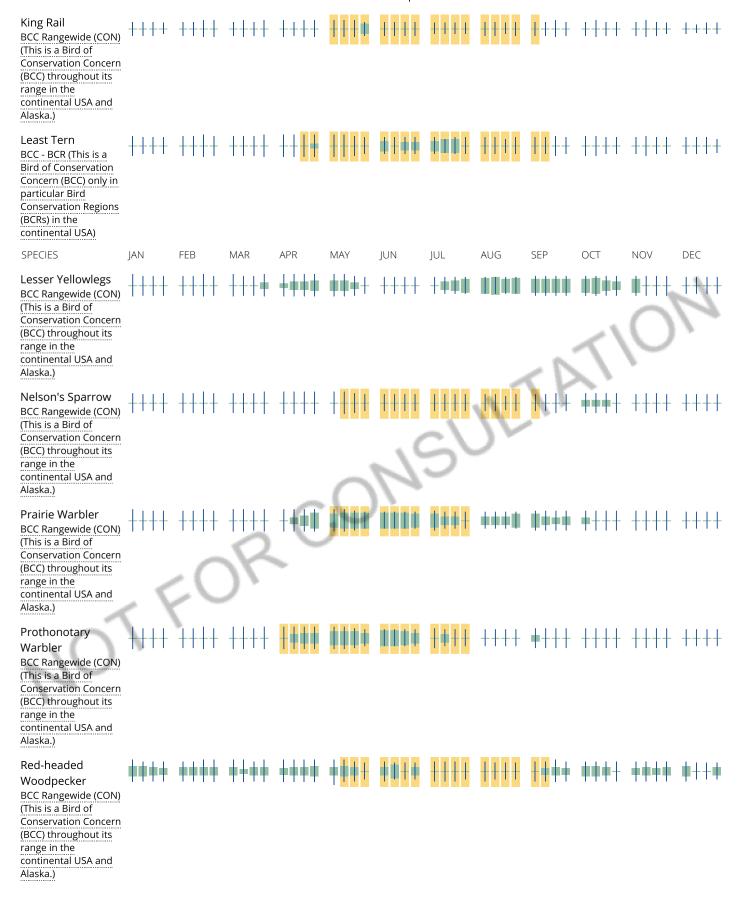
A week is marked as having no data if there were no survey events for that week.

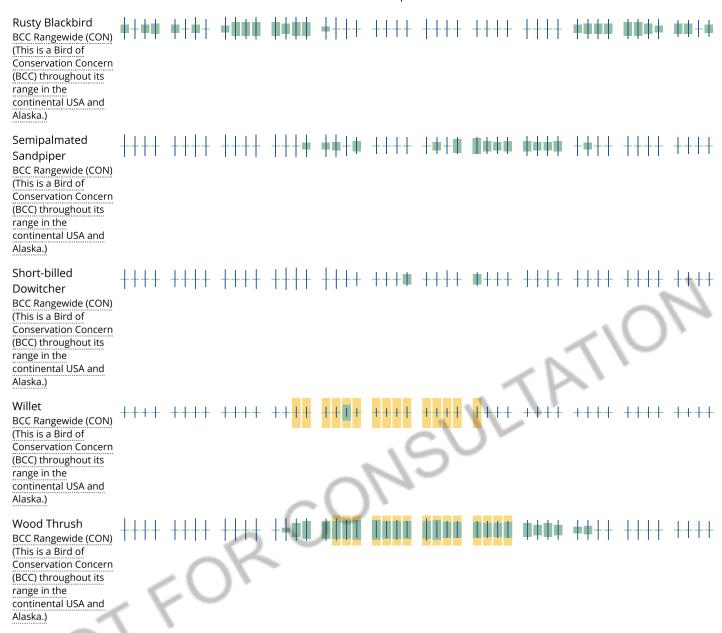
Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.









Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge Network</u> (<u>AKN</u>). The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects,

and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey, banding, and citizen science datasets</u>.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

- 1. "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
- 2. "BCC BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
- 3. "Non-BCC Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the <u>Northeast Ocean Data Portal</u>. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the <u>NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.</u>

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam Loring</u>.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to <u>obtain a permit</u> to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

This location overlaps the following National Wildlife Refuge lands:

Patuxent Research Refuge 2,394.07 acres

\((301) 497-5580

(301) 497-5577

12100 Beech Forest Road, Room 138 Laurel, MD 20708-4036

https://www.fws.gov/refuges/profiles/index.cfm?id=51640

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local <u>U.S. Army Corps of Engineers</u> District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or

local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

List of Rare, Threatened, and Endangered Species of Prince Georges County

August 2019



Maryland Wildlife and Heritage Service Natural Heritage Program



Larry Hogan, Governor Jeannie Haddaway-Riccio, Secretary

Wildlife & Heritage Service

Natural Heritage Program
Tawes State Office Building, E-1
580 Taylor Avenue
Annapolis, MD 21401
410-260-8540
Fax 410-260-8596
dnr.maryland.gov/wildlife

Additional Telephone Contact Information:
Toll free in Maryland: 877-620-8DNR ext. 8540 OR
Individual unit/program toll-free number
Out of state call: 410-260-8540
Text Telephone (TTY) users call via the Maryland Relay

The facilities and services of the Maryland Department of Natural Resources are available to all without regard to race, color, religion, sex, sexual orientation, age, national origin or physical or mental disability. This document is available in alternative format upon request from a qualified individual with disability.

ACKNOWLEDGMENTS

The Maryland Department of Natural Resources would like to express sincere appreciation to the many scientists and naturalists who willingly share information and provide their expertise to further our mission of conserving Maryland's natural heritage.

Publication of this list is made possible by taxpayer donations to Maryland's Chesapeake Bay and Endangered Species Fund.

IMPORTANT NOTES

This list is a subset of the main reports:

Maryland Natural Heritage Program. 2019. List of Rare, Threatened, and Endangered Plants of Maryland DNR 03-031319-135 and

Maryland Natural Heritage Program. 2019. Rare, Threatened, and Endangered Plants of Maryland DNR 03-031319-136 and

Maryland Natural Heritage Program. 2016. List of Rare, Threatened, and Endangered Animals of Maryland DNR 03-1272016-633

Please refer to these for important information including grank, history, purpose, governing laws and regulations, understanding state and federal conservation status ranks and legal statuses, and for additional resources.

This list is derived from an extensive data collection effort and numerous field surveys to determine distribution and abundance of plants and animals native to Maryland. Although based on a large volume of information, this list should not be viewed as complete or definitive. While much is known about some species, very little is known about others. The Maryland Natural Heritage Program welcomes additional information or recommendations regarding any of the taxa listed herein.

HOW YOU CAN HELP

You can take an active part in conserving Maryland's rare species by contacting the Wildlife and Heritage Service with the following types of information:

- 1. Location details should be included (exact mapped location using GPS is preferred, but not required). Online applications such as Google Earth are invaluable but precise, written directions including driving and walking are acceptable.
- 2. Documentation that includes a photograph, description of the species, identification source, and habitat description should accompany the report.
- 3. Information on the ecology and or biology of the species including observed and/or identified pollinators should accompany the report.
- **Additional information, including a downloadable PDF of our rare plant reporting form can be found at: dnr.maryland.gov/wildlife/Pages/plants_wildlife/rte_reportinginst.aspx

Definitions of qualifiers used in the county distribution of species.

Distributional Qualifier	Definition
{species}?	Record for the county is reported but unverified or may indicate that the record occurs outside of the known range or in atypical habitat.
{species} ^h	Record for the county is based upon a historical collection but no extant population is known.
{species} ^I	Record for the county is the result of an introduction.

SCIENTIFIC NAME	COMMON NAME	STATE RANK	STATE STATUS	FEDERAL STATUS
Animals				
Alasmidonta undulata	Triangle Floater	S1	Е	
Autochton cellus	Golden-banded Skipper	SH	Χ	
Botaurus lentiginosus	American Bittern	S1B	T	
Cambarus acuminatus	Acuminate Crayfish	S2	1	
Celithemis martha	Martha's Pennant	S1		
Chlorotettix sp. 1	A Cicadellid Leafhopper	SU		
Cicindela patruela	Northern Barrens Tiger Beetle	S1	Е	
Cistothorus platensis	Sedge Wren	S1B	Е	
Cordulegaster bilineata	Brown Spiketail	S3		
Cordulegaster erronea	Tiger Spiketail	S3		
Cordulegaster obliqua	Arrowhead Spiketail	S2		
Elliptio lanceolata	Yellow Lance	SU		
Enneacanthus obesus	Banded Sunfish	S2		
Epitheca costalis	Slender Baskettail	S1		
Etheostoma vitreum	Glassy Darter	S1S2	T	
Euphydryas phaeton	Baltimore Checkerspot	S2		
Gomphaeschna antilope	Taper-tailed Darner	S2		
Gomphus parvidens	Piedmont Clubtail	SH	Χ	
Gomphus rogersi	Sable Clubtail	S2	I	
Haliaeetus leucocephalus	Bald Eagle	S3S4		
Helocordulia selysii	Selys' Sundragon	S2	Т	
Ixobrychus exilis	Least Bittern	S2S3B	I	
Laccophilus schwarzi	Schwarz' Diving Beetle	SX		
Lepisosteus osseus	Longnose Gar	S2?		
Leptodea ochracea	Tidewater Mucket	S1S2		
Lethenteron appendix	American Brook Lamprey	S1S2	Т	
Libellula flavida	Yellow-sided Skimmer	S2S3		
	Eastern Sedge Barrens			
Limotettix minuendus	Leafhopper	S1	Е	
Lophodytes cucullatus	Hooded Merganser	S3B		
Nannothemis bella	Elfin Skimmer	S1	Е	
Nehalennia gracilis	Sphagnum Sprite	S2		
Nehalennia integricollis	Southern Sprite	S1S2		
Nephus gordoni	A Coccinellid Beetle	SU		
Percina bimaculata	Chesapeake Logperch	S1S2	T	
Percina notogramma	Stripeback Darter	S1	Е	
Peucaea aestivalis	Bachman's Sparrow	SHB	Χ	
Phagocata virilis	A Planarian	S1		
Podilymbus podiceps	Pied-billed Grebe	S2S3B		
Porzana carolina	Sora	S2B		
Reithrodontomys humulis	Eastern Harvest Mouse	SH	Χ	
Rhionaeschna mutata	Spring Blue Darner	S1	Е	
Somatochlora filosa	Fine-lined Emerald	S2		

SCIENTIFIC NAME	COMMON NAME	STATE RANK	STATE STATUS	FEDERAL STATUS
Sorex hoyi winnemana	Southern Pygmy Shrew	S2		
Sorex longirostris	Southeastern Shrew	S3S4		
Sperchopsis tessellatus	A Hydrophilid Beetle	S2		
Strophitus undulatus	Creeper	S2	1	
Stygobromus indentatus	Tidewater Amphipod	S1		
Stygobromus tenuis potomacus	Potomac Amphipod	S3		
Stygobromus tenuis tenuis	Slender Amphipod	SU		
Stylurus laurae	Laura's Clubtail	S2S3		
Tachopteryx thoreyi	Gray Petaltail	S3		
Plants				
Aeschynomene virginica	Sensitive Joint-vetch	S1	E	LT
Agalinis acuta	Sandplain Gerardia	S1	E	LE
Agalinis auriculata	Earleaf False Foxglove	S1	E	
Agalinis obtusifolia ^h	Ten-lobe False Foxglove	SH	X	
Agalinis setacea ^h	Thread-leaved Gerardia	S2	Е	
Agalinis skinneriana	Pale False Foxglove	S1	Е	
Agrimonia striata ^h	Woodland Agrimony	S1	Е	
Aletris aurea ^h	Golden Colicroot	SH	X	
Amianthium muscitoxicum h	Fly-poison	S2		
Anagallis minima ^h	Chaffweed	SU	X	
Anemone canadensis ^h	Canada Anemone	SH	X	
Antennaria solitaria	Single-head Pussytoes	S2	Т	
Arethusa bulbosa h	Swamp-pink	SX	X	
Arnica acaulis ^h	Leopard's-bane	S1	Е	
Aronia x prunifolia	Purple Chokeberry	S3		
Arundinaria tecta	Switch Cane	S2		
Asclepias rubra	Red Milkweed	S1	Е	
Asclepias verticillata h	Whorled Milkweed	S3		
Aureolaria flava ^h	Smooth Yellow False Foxglove	S3		
Baptisia australis ^h	Blue Wild Indigo	S2	Т	
Bartonia paniculata	Twining Screwstem	S3		
Betula populifolia	Gray Birch	S1?		
Botrychium matricariifolium	Chamomile Grapefern	S1?		
Bromus nottowayanus	Nottoway Brome	S3S4		
Buchnera americana ^h	Bluehearts	SH	X	
Calopogon tuberosus	Tuberous Grass-pink	S1	E	
Calystegia spithamaea ssp. spithamaea ^{h?}	Low Bindweed	S2		
Cardamine douglassii	Purple Cress	S3		
Carex albursina	White Bear Sedge	S3		
Carex aquatilis	Water Sedge	S1		
Carex bullata	Button Sedge	S3		
Carex buxbaumii	Buxbaum's Sedge	S2	Т	

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Carex conoidea	Field Sedge	S1	Е	
Carex echinata h	Prickly Sedge	S3		
Carex hirtifolia	Pubescent Sedge	S3		
Carex hitchcockiana	Hitchcock's Sedge	S1	Е	
Carex hyalinolepis	Shoreline Sedge	S2S3		
Carex lacustris h	Lake-bank Sedge	S2		
Carex Iouisianica	Louisiana Sedge	S3		
Carex lupuliformis	False Hop Sedge	S2		
Carex pedunculata	Long-stalked Sedge	S1	Е	
Carex shortiana	Short's Sedge	S3S4	Е	
Carex sparganioides	Bur-reed Sedge	S3		
Carex tenera h	Slender Sedge	SH	X	
Carex venusta	Dark Green Sedge	S3S4		
Carex vestita h	Velvety Sedge	S2	T	
Centrosema virginianum	Coastal Butterfly Pea	S2		
Chelone obliqua	Red Turtlehead	S2	T	
Chimaphila umbellata	Common Wintergreen	S3		
Chrysogonum virginianum h	Green-and-gold	S3		
Coptis trifolia h	Goldthread	S1	Е	
Corallorhiza wisteriana	Spring Coralroot	S1	Е	
Coreopsis verticillata	Whorled Coreopsis	S3		
Crocanthemum bicknellii h	Plains Frostweed	S1	Е	
Cyperus diandrus?	Umbrella Flatsedge	SU		
Cyperus lancastriensis	Many-flowered Umbrella-sedge	S2S3		
Cyperus refractus	Reflexed Flatsedge	S2?		
Cypripedium parviflorum var. pubescens h	Large Yellow Lady's-slipper	S3		
Desmodium canadense h	Showy Tick-trefoil	SH		
Desmodium laevigatum	Smooth Tick-trefoil	S3	_	
Desmodium obtusum h	Stiff Tick-trefoil	S1	E	
Dicentra eximia	Wild Bleedinghearts	S2	T	
Dichanthelium bicknellii	Bicknell's Witchgrass	SU	Χ	
Dichanthelium laxiflorum Dichanthelium oligosanthes var.	Open-flower Witchgrass	S1?		
oligosanthes ^h Dichanthelium ravenelii ^h	Few-flowered Witchgrass Ravenel's Witchgrass	S2S3 SH		
Diphasiastrum tristachyum	Deep-root Clubmoss	S3		
Doellingeria infirma ^h	Cornel-leaf Aster	S3		
Drosera rotundifolia	Roundleaf Sundew	S3		
Elatine americana h	American Waterwort	SU		
Eleocharis tortilis		S3		
Erigenia bulbosa	Twisted Spikerush Harbinger-of-spring	S3		
Eriocaulon decangulare	Ten-angle Pipewort	S3 S1		
Eriocaulon decangulare Eriophorum virginicum	• •	\$1 \$3		
Enophorum viiginicum	Tawny Cottongrass	33		

SCIENTIFIC NAME	COMMON NAME	STATE RANK	STATE STATUS	FEDERAL STATUS
Eupatorium leucolepis h	White-bracted Thoroughwort	S2S3	T	
Euphorbia spathulata ^h	Warty Spurge, Bluntleaf Spurge	S1	Е	
Eurybia radula	Rough Wood Aster	S1	E	
Fimbristylis annua ^h	Annual Fimbry	S3		
Gaylussacia dumosa	Dwarf Huckleberry	S1	E	
Gentiana andrewsii	Fringe-top Bottle Gentian	S2	Т	
Gentiana villosa ^h	Striped Gentian	S1	E	
Geum laciniatum ^h	Rough Avens	S3		
Gratiola viscidula	Short's Hedge-hyssop	S1	E	
Hemianthus micranthemoides h	Nuttall's Micranthemum	SH	Χ	
Hibiscus laevis	Halberd-leaf Rosemallow	S3		
Homalosorus pycnocarpos	Glade Fern	S2	Т	
Hylodesmum pauciflorum	Few-flowered Tick-trefoil	S2	Е	
Hypericum gymnanthum	Clasping-leaf St. John's-wort	S3		
Hypericum virgatum h	Sharpleaf St. John's-wort	SH		
llex decidua	Deciduous Holly	S2		
Iris prismatica ^h	Slender Blueflag	S2	E	
<i>Iris verna</i> ^h	Dwarf Iris	S1	E	
Iris virginica ^h	Virginia Blueflag	S3		
Isoëtes engelmannii	Engelmann's Quillwort	S3		
Isoëtes riparia ^h	Riverbank Quillwort	SU		
Juncus Iongii	Long's Rush	S1	E	
Juncus torreyi	Torrey's Rush	S1	E	
Kalmia angustifolia	Sheep Laurel	S3S4		
Krigia dandelion	Potato Dwarf-dandelion	S2S3		
Lathyrus palustris h	Vetchling Peavine	S1	Е	
Lechea tenuifolia ^h	Slender Pinweed	SH	X	
Lespedeza stuevei	Silky Lespedeza	S3		
Linum intercursum	Sandplain Flax	S2	T	
Liparis liliifolia ^h	Large Twayblade	S2S3		
Listera australis	Southern Twayblade	S3		
Lithospermum virginianum h	Virginia False Gromwell	S1	Е	
Ludwigia decurrens	Primrose-willow	S2S3		
Ludwigia hirtella ^h	Hairy Ludwigia	S1	Е	
Lupinus perennis ^h	Sundial Lupine	S2	T	
Lygodium palmatum	Climbing Fern	S2	T	
Lythrum alatum ^h	Winged Loosestrife	S1	E	
Magnolia tripetala	Umbrella Magnolia	S3		
Malaxis unifolia h	Green Adder's-mouth Orchid	S2		
Malus angustifolia	Southern Crabapple	S3		
Matelea carolinensis	Carolina Anglepod	S2S3	Е	
Matteuccia struthiopteris h	Ostrich Fern	S2S3		
Mecardonia acuminata	Purple Mecardonia	S2	Е	

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Melica mutica ^h	Narrow Melicgrass	S3		
Monarda media	Purple Bergamot	SH		
Monotropsis odorata h	Sweet Pinesap	S1	Е	
Muhlenbergia capillaris ^h	Hair-awn Muhly	S1	Е	
Muhlenbergia glabriflora ^h	Hairgrass	SH		
Muhlenbergia sylvatica h	Woodland Muhly	S3		
Myosotis macrosperma	Large-seed Forget-me-not	S3S4		
Myosotis verna	Spring Forget-me-not	S3		
Nemophila aphylla	Small-flower Baby-blue-eyes	S2		
Oldenlandia uniflora	Clustered Bluets	S3		
Orbexilum psoralioides?	False Scurfpea	SX		
Orthilia secunda h	One-side Wintergreen	SH	X	
Panax quinquefolius ^h	American Ginseng	S2S3		
Panicum philadelphicum h	Philadelphia Panicgrass	SU		
Parthenium integrifolium h	American Feverfew	S1	Е	
Pedicularis lanceolata	Swamp Lousewort	S1	Е	
Penstemon laevigatus h	Smooth Beardtongue	SU		
Phacelia covillei	Buttercup Scorpionweed	S2	Е	
Phacelia purshii	Miami-mist	S3		
Phemeranthus teretifolius h?	Roundleaf Fameflower	S2	Т	
Phyllanthus caroliniensis h	Carolina Leaf-flower	S3		
Pilea fontana	Springs Clearweed	S3		
Plantago cordata ^h	Heartleaf Plantain	SH	X	
Platanthera blephariglottis var.				
blephariglottis	White Fringed Orchid	S2	T -	
Platanthera ciliaris h	Yellow Fringed Orchid	S2	Т	
Platanthera cristata	Crested Yellow Orchid	S3		
Platanthera flava	Pale Green Orchid	S2S3	_	
Platanthera peramoena h	Purple Fringeless Orchid	S1S2	T _	
Pluchea camphorata h	Marsh Fleabane	S1	Е	
Podostemum ceratophyllum	Threadfoot	S3		
Pogonia ophioglossoides	Rose Pogonia	S3	_	
Polygala cruciata	Crossleaf Milkwort	S2	Т	
Polygala incarnata	Pink Milkwort	S2S3	_	
Polygala polygama	Racemed Milkwort	S1	Т	
Potamogeton amplifolius?	Large-leaved Pondweed	S1S2		
Potamogeton foliosus	Leafy Pondweed	S2	E	
Potamogeton perfoliatus	Claspingleaf Pondweed	S3		
Potamogeton pusillus	Slender Pondweed	S2S4		
Potamogeton robbinsii h	Flatleaf Pondweed	S1?	X	
Prunus susquehanae h	Susquehanna Sandcherry	SH		
Pseudolycopodiella caroliniana h	Carolina Clubmoss	S1	E	
Ptelea trifoliata	Common Hoptree	S3		
Pycnanthemum pycnanthemoides ?	Southern Mountainmint	SH	X	

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Pycnanthemum verticillatum ^h	Whorled Mountainmint	S1	E	
Pyrola chlorantha ^h	Green-flower Wintergreen	SH	X	
Quercus macrocarpa ^I	Bur Oak	S1S2		
Ranunculus ambigens ^h	Water-plantain Spearwort	S1	X	
Ranunculus flabellaris	Yellow Water Crowfoot	S1	E	
Ranunculus hederaceus ^h	Long-stalked Crowfoot	S1	E	
Ranunculus pusillus	Pursh's Buttercup	SU		
Rhynchospora alba	White Beakrush	S3		
Rhynchospora cephalantha	Capitate Beakrush	S1	E	
Rhynchospora glomerata h	Clustered Beakrush	S3		
Rhynchospora microcephala	Small-headed Beakrush	S2		
Rhynchospora oligantha h	Few-flowered Beakrush	SH	X	
Rhynchospora rariflora	Few-flowered Beakrush	SU	X	
Rhynchospora recognita h	Cymose Beakrush	S2		
Ribes cynosbati	Prickly Gooseberry	S3		
Rudbeckia fulgida ^h	Orange Coneflower	S3		
Sagittaria engelmanniana ^h	Engelmann's Arrowhead	S2	Т	
Sagittaria rigida ^h	Sessile-fruit Arrowhead	S1	Е	
Salix exigua	Narrowleaf Willow	S1	Е	
Salix occidentalis h	Dwarf Prairie Willow	S2		
Sanguisorba canadensis ^h	Canada Burnet	S2	Т	
Sarracenia purpurea	Northern Pitcherplant	S2	Т	
Schoenoplectus novae-angliae	Salt-marsh Bulrush	S2		
Schoenoplectus smithii h	Smith's Bulrush	S1?	X	
Scirpus expansus?	Woodland Bulrush	S3		
Scleria muehlenbergii ^h	Muhelenberg's Nutrush	S1S2		
Scleria reticularis ^h	Reticulated Nutrush	S2S3		
Scleria triglomerata	Whip Nutrush	S3		
Scutellaria nervosa	Veined Skullcap	S1S2	E	
Scutellaria serrata ^h	Showy Skullcap	S3		
Silene nivea ^h	Snowy Campion	S1	E	
Smilax bona-nox	Saw Greenbrier	S3		
Smilax pseudochina	Long-stalk Greenbrier	S2	T	
Solidago latissimifolia h	Elliott's Goldenrod	S3		
Solidago patula	Sharp-leaved Goldenrod	S3		
Solidago speciosa ^h	Showy Goldenrod	S2	T	
Solidago uliginosa	Bog Goldenrod	S3		
Sparganium eurycarpum	Giant Bur-reed	S3		
Sphenopholis pensylvanica	Swamp Wedgescale	S2	T	
Spiranthes tuberosa	Little Ladies'-tresses	S1?		
Stachys hyssopifolia ^h	Hyssopleaf Hedge-nettle	S1		
Stellaria alsine	Trailing Stitchwort	S1	Е	
Stenanthium gramineum h	Eastern Featherbells	S1	Т	
Symphyotrichum concolor h	Eastern Silvery Aster	S1	E	

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Thelypteris simulata	Bog Fern	S2	Т	
Torreyochloa pallida var. pallida	Pale Mannagrass	S3		
Triantha racemosa ^h	Coastal False Asphodel	SX	X	
Trichophorum planifolium h	Bashful Bulrush	S2		
Utricularia striata	Fibrous Bladderwort	S1	Е	
Utricularia subulata	Zigzag Bladderwort	S3		
Vaccinium macrocarpon h	Large Cranberry	S3		
Veratrum virginicum	Virginia Bunchflower	S3		
Viburnum lentago ^{Ih}	Nannyberry	S1		
Vitis rupestris h	Rock Grape	S1		
Xyris fimbriata	Fringed Yellow-eyed-grass	S1	E	